800 262-8200

Ethyl Alcohol, Ethanol

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

DPM 5/14

MATERIAL SAFETY DATA SHEET

USI Product Code
1100 & 1105

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

CAUSINDU1

SECTION I

MANUFACTURER'S NAME: U. S. Industrial Chemicals Co. Division of National Distillers and Chemical Corporation	EMERGENCY TELEPHONE NO.: 800-424-9300
ADDRESS (Number, Street, City, State, and ZIP Code): 99 Park Avenue, New York, New York 10016	
CHEMICAL NAME AND SYNONYMS: Ethyl Alcohol, Ethanol	TRADE NAME AND SYNONYMS: Pure 190° Ethyl Alcohol
CHEMICAL FAMILY: Alcohol	FORMULA: C_2H_5OH (M.W. = 46.1g/g-mole)

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					ACGIH*

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Ethyl Alcohol	92.4	1000 ppm
Water	7.6	N.A.
* USDOL/OSHA Standard is identical		

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	173[1]	SPECIFIC GRAVITY (H_2O=1) @ 60°/60°F	0.8158
VAPOR PRESSURE (mm Hg.) @ 20°C	44.6[2]	PERCENT, VOLATILE BY VOLUME (%)	99.9+
VAPOR DENSITY (AIR=1)	1.59[1]	EVAPORATION RATE (n-Butyl acetate = 1)	2.7
SOLUBILITY IN WATER	Complete		
APPEARANCE AND ODOR	Colorless liquid, mild alcoholic odor		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used): ASTM D 56 Tag Closed Cup Approx. 60°F	FLAMMABLE LIMITS	Lel: 3.3%	Uel: 19%
EXTINGUISHING MEDIA: Water, alcohol foam, carbon dioxide or dry chemical			
SPECIAL FIRE FIGHTING PROCEDURES: Do not use ordinary foam			
UNUSUAL FIRE AND EXPLOSION HAZARDS			
5/82			

(Continued on reverse side)

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SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
See Section II

EFFECTS OF OVEREXPOSURE
Eye and respiratory tract irritation and possible drowsiness above 1,000 ppm.
Prolonged high concentration exposures may result in headache, tremors, and fatigue.[1]

EMERGENCY AND FIRST AID PROCEDURES
Remove from exposure. In case of contact with eyes, flush with plenty of water for at least 15 minutes. Call a physician.

SECTION VI - REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		Keep away from heat or ignition sources
	STABLE	X	

INCOMPATABILITY *(Materials to avoid)*
Oxidizing materials, such as acetyl chloride, nitric acid and hydrogen peroxide

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon dioxide is formed during combustion.

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Keep heat or ignition sources away; ventilate area; dilution with water will decrease the risk of a fire hazard.

WASTE DISPOSAL METHOD
Small amounts may be flushed away with water. Large amounts may be contained and collected for incineration.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*
Air purifying respirator. See below*

VENTILATION		
	LOCAL EXHAUST Sufficient to keep concentration below 1,000 ppm	SPECIAL
	MECHANICAL *(General)*	OTHER

PROTECTIVE GLOVES
Not required if no skin contact

EYE PROTECTION
Safety eyewear with splash guards or eye shields

OTHER PROTECTIVE EQUIPMENT
*If permissible exposure level is exceeded, use NIOSH approved respirator.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Store away from oxidizing agents; keep away from heat or ignition sources; use adequate ventilation.

OTHER PRECAUTIONS
Keep container closed. Ground containers when emptying.

REF: 1) Dangerous Properties of Industrial Materials, Sax, N.I., 1979, Van Nostrand Reinhold Co., NY.
2) Physical and Thermodynamic Properties of Aliphatic Alcohols, Wilhot, R. C. and Zwolinski, B. J., 1973, American Chemical Society and American Institute of Physics